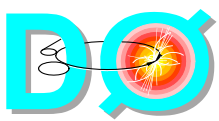


DO Status and Plans

Sub-detector January shutdown activities and plans

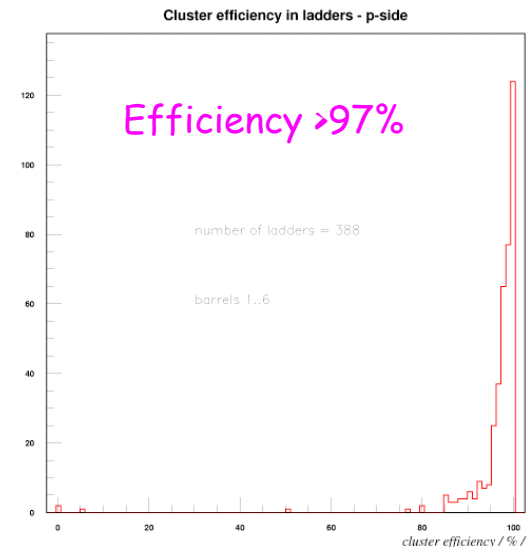
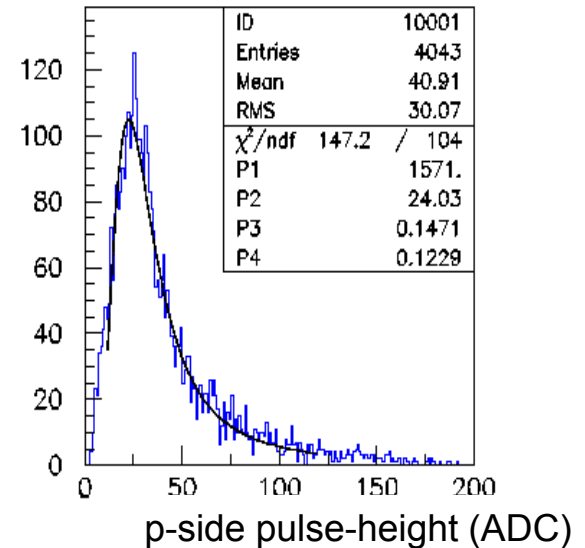
Results from the first post-shutdown store

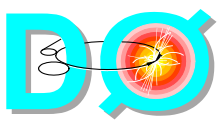
Plans for the next ~6 months



Silicon Detector

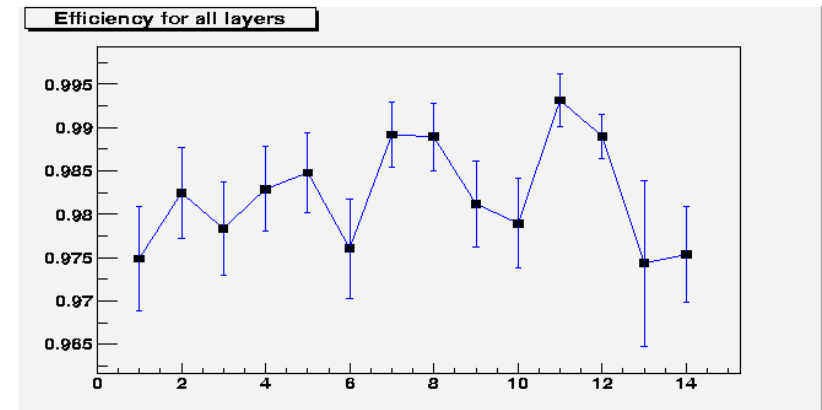
- SMT has been running smoothly since 2001
- Major problems came from utilities
 - ♦ Interface Board Power Supply failures
 - ♦ 2 Interface Board Crates air-water heat exchanger leaks
- Issues still under investigation
 - ♦ Pedestal shifts as a function of beam crossing (~ 2 ch)
 - ♦ Extra noise on Micron F-wedges. Not present on their Eurysis counterparts
- During January shutdown
 - ♦ Fixes to electronics increased number of operating channels from 88% to 92%
 - ♦ Installation of easy removable TLD badges for radiation dose monitoring
- Plan for the next ~ 6 months
 - ♦ Support detector operations
 - ♦ Understand reasons of split pedestals
 - ♦ Speed up readout (see trigger section)
 - ♦ Monitor radiation aging (~ 70 krad as of today)





Fiber Tracker and Preshowers

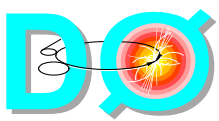
- Pre-shutdown operations
 - ◆ Operations were smooth
 - ◆ Detector downtimes were very small
 - ◆ Performance was satisfactory
 - ▲ ~99% of CFT channels operational
 - ▲ Layer efficiencies are ~98%
- Shutdown activities
 - ◆ Refrigeration system maintenance
 - ▲ Cryostats have been cold for about 20 months
 - ▲ Dilute contaminants in cassette space
 - Use purer helium in future
- Readout Improvements
- Trigger Progress
 - ◆ Improved determination of discriminator thresholds
 - ◆ Hardware upgrades
 - ▲ Transition boards
 - ▲ Power supplies
 - ◆ Firmware upgrades
 - ◆ Continuing commissioning/testing
 - ▲ Major task for the next few months
- LED pulser system upgrades
- FPS waveguide studies and re-routing



CFT Layers Efficiency

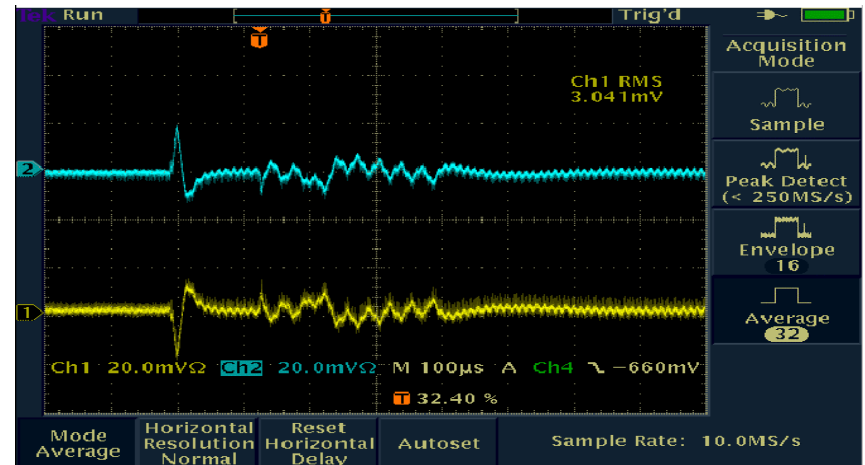


VLPC Cryostat and AFE boards

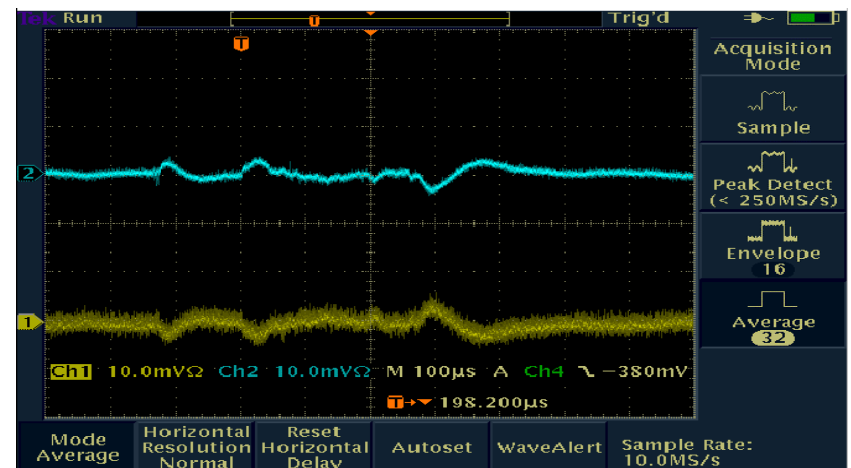


Calorimeter

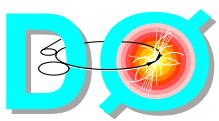
- Mostly stable operation during pre-shutdown phase
 - ◆ Typically less than 0.1% of problematic channels
- Major jobs during January shutdown
 - ◆ Modification of ~1500 BLS boards to reduce trigger pick up noise
 - ▲ Down to ~1GeV level
 - ◆ Replaced preamp cooling fans in cathedral area
 - ▲ Air flow sensors are planned to be installed on all fans during summer 2003 shutdown
 - ◆ Installed boards for full eta Level 1 trigger coverage
- Plans for the next 6 months
 - ◆ Support stable detector operation
 - ◆ Commission Level 1 trigger with full eta coverage



Cross talk before modifications

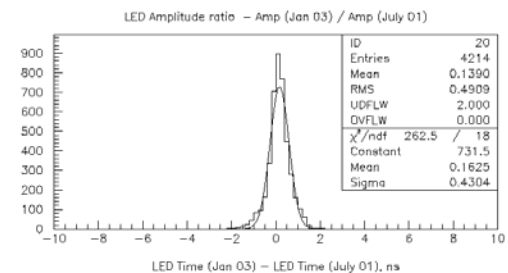
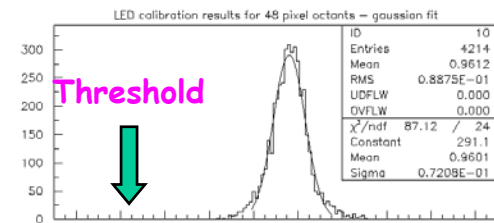
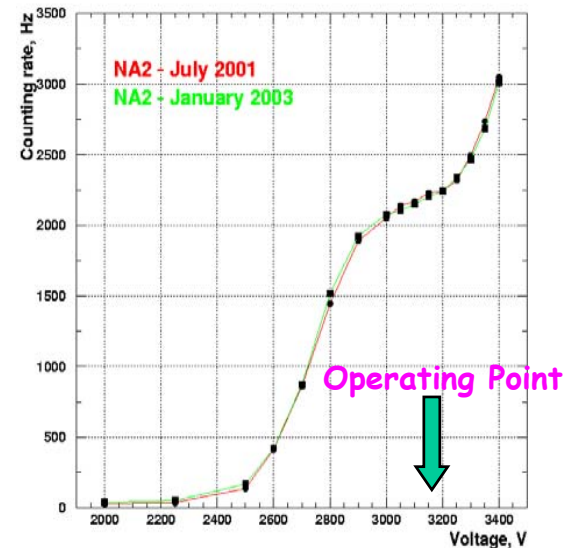


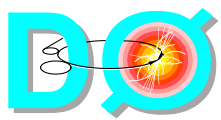
After modifications, note vertical scale change



Muon System

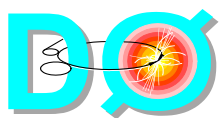
- Stable operation of detectors
 - ◆ readout crashes have been affecting overall DO trigger rate capabilities over last 4 months
- January shutdown
 - ◆ Two MDT broken wires fixed
 - ▲ Failure rate is ~3 wires per 2 years of operation out of 50,000
 - ◆ Multiple minor repairs to FE electronics, HV system, etc.
- No aging of forward (highest occupancies) detectors observed (as expected)
- Plans for the next ~6 months
 - ◆ Support stable system operation
 - ◆ Resolve problems with PDT readout
 - ▲ Indication that crashes have been resolved after bug fix yesterday
 - ▲ ... but with code running we can clearly see it is too slow to run above ~600Hz





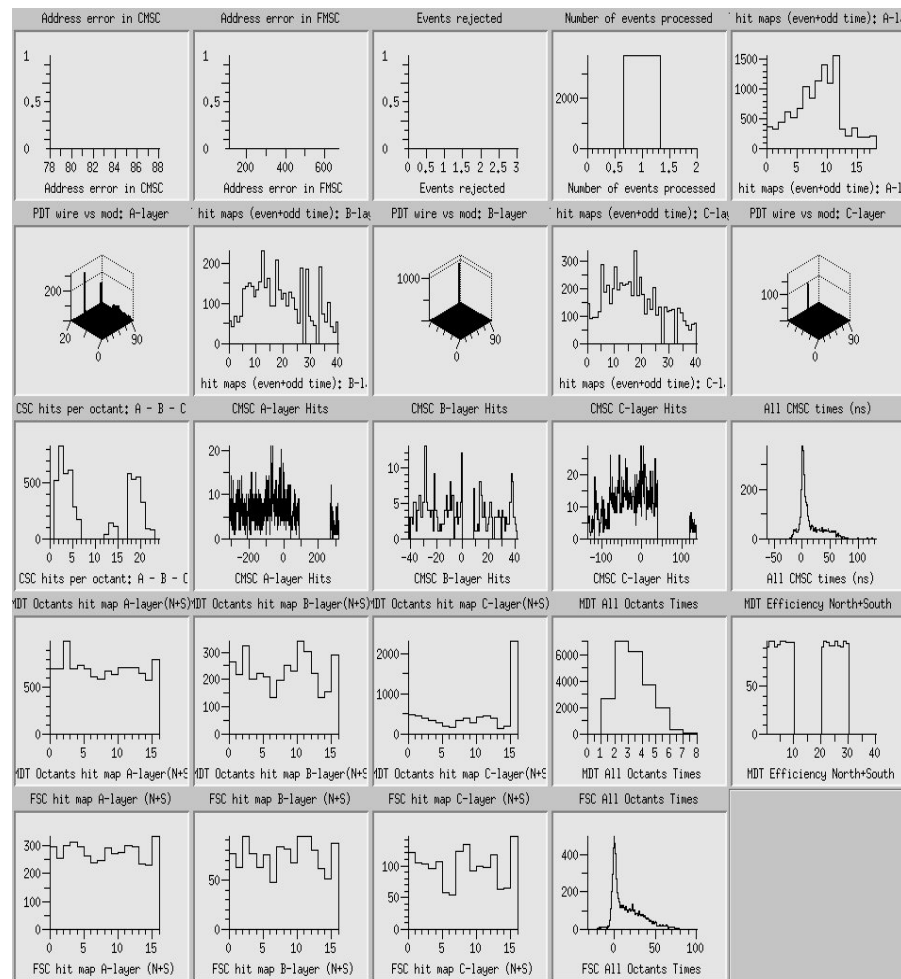
Forward Proton Detector

- In commissioning stage before shutdown with temporary “stand alone” DAQ system and triggering
- Work during January shutdown
 - ◆ A2 castle vacuum leak repaired, vacuum performance good enough that baking deemed not necessary by BD experts
 - ◆ Surveying redone
 - ◆ Various pot motion tests and upgrades done, some new detectors installed and tested, cable tests, etc.
 - 2 additional interfaces between FPD cables and AFE’s and 2 new AFE’s installed
- Current status
 - The 10 Phase I FPD detectors (vertical pots and dipole pots) are now in the DØ readout
- Plans for the next ~6 months
 - Commission integrated FPD (start taking data with AFE’s)
 - Add new AND/OR terms and FPD triggers
 - Incorporate LM system, DFE boards, and TM
 - Periodic accesses for maintenance

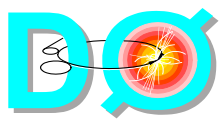


Results of the First Post Shutdown Store

- Started physics data taking within 10 minutes of store declaration
 - All sub-systems have been in a very good shape and ready for data taking
- Beam position is well within detector center
 - Within 0.25mm in X-Y plane
 - Within 1-2cm along beam line, sigma is ~25cm
- Beam halo looks reasonable for the value of luminosity achieved
- A few minor issues with sub-detectors uncovered (most on a few % level)
- Detector timing looks quite reasonable
- Longer store is needed to make final conclusion about all sub-systems performance



Set of Muon System on-line Monitoring Plots



Summary

- D0 Detector is starting post shutdown operation in a good shape
 - ◆ Improved detectors and triggers
 - ◆ First store demonstrates stable detector performance
- Plan to concentrate on physics data sample accumulation over next ~6 months
 - ◆ No plans for extended access requests
- Major commissioning activities for the next ~6 months
 - ◆ Fiber tracker trigger
 - ◆ Silicon displaced vertex trigger
 - ◆ Full eta coverage Level 1 calorimeter trigger
 - ◆ Increase in Level 1 (~2kHz) and Level 2 (~1kHz) trigger rates
- Operating efficiency
 - ◆ Our goal over next 6 months is to reach ~85% weekly operating efficiency